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ABSTRACT

A study was conducted to determine the contribution of selected factors to the decline in enrollment in secondary vocational agricultural education programs in Idaho. It investigated the perceptions of 73 Idaho secondary school administrators and 81 vocational agriculture instructors toward the influence of the factors on enrollment. Data were analyzed using the Statistical Package for Social Studies, with subprograms, Frequency, Friedman's Two-way ANOVA, and Wilcoxon's Matched-pairs Signed-rank test. The 13 factors, identified from the literature as limiting vocational agriculture enrollments, were rated significantly differently as to their effect by respondents. The four factors rated as having the most limiting effect on enrollment were scheduling conflicts, change in students' interests and attitudes toward agriculture, competition with other elective courses, and academically gifted students guided away from vocational agriculture. The five factors rated as having the least limiting effect on vocational agriculture enrollment were the supervised occupational experience program requirement, vocational agriculture used as a dumping ground, inadequacy of tools and equipment, limited facilities for vocational agriculture students, and students living in urban areas. Administrators and instructors rated 6 of the 13 factors significantly differently. (YLB)

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PERCEPTIONS OF ADMINISTRATORS AND INSTRUCTORS CONCERNING FACTORS INFLUENCING VOCATIONAL AGRICULTURE ENROLLMENT

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INTRODUCTION

Vocational agriculture has, historically, been a part of the comprehensive secondary educational system and has been accessible to all that needed or could benefit from its instructional program. The providers of vocational agriculture have been committed to a quality program of education in agriculture. However, the effectiveness and efficiency of vocational agriculture programs to provide appropriate and relevant education in agriculture will be greatly impacted by a significant decline in student enrollment.

The 1986 report Future Directions for Secondary Agricultural Education in Idaho included the following:

> There is a steady decline in the level of funding for secondary Agricultural Education programs from the federal level. The depressed economy and growing distrust of public education is causing a shortage of funding for education in general. This increases the possibilities of year-round secondary agricultural education programs being shortened or eliminated. (p. 10)

New standards in education, a result of the Excellence in Education movement, require that high school students face more stringent graduation and college entrance requirements, thus limiting options and possibly limiting enrollment in vocational agriculture classes.

Effective fall 1984, secondary students in Idaho who graduate in 1988 and thereafter will be required to complete a 14 credit core and maintain a composite grade average of C. No student is eligible for credit in a class unless the student is present 90 percent of the occasions the class is in session (A Report to the Idaho State Board of Education from the Commission on Excellence in Education, 1982). These standards came at a time when many vocational agriculture programs were already facing declining enrollments and in some cases closure.

While the results of the Excellence in Education movement may have the predicted impact on vocational agriculture enrollments, time must pass before the impact can be measured. However, vocational agriculture enrollments had been declining before the movement became a reality. Logic would dictate other factors were already having an influence.

If vocational agricultural education is to survive as an element in the educational community it will require steady supply of qualified students to maintain program vitality. However, there has been a decline of 471 students in 75 Idaho vocational agriculture programs between the 1979-1986 academic years, a decrease of more than 14 percent.

A review of the literature (mostly opinion articles by agricultural educators) identified the following factors as having a limiting influence on vocational agriculture enrollment on a national basis:

1. Vocational agriculture classes continually face scheduling in the school day opposite required courses.
2. Vocational agriculture classes are facing more competition for students from other elective courses.
3. High school students are participating more in sports activities and therefore do not have the time to devote to vocational agriculture.
4. Academically oriented students are being guided away from enrollment in vocational agriculture.
5. Vocational agriculture is used by schools as a "dumping ground" for low achieving students.
6. Vocational agriculture demands too much of a student's time.
7. Vocational agriculture requires students to have a SOEP.

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8. More of the student population is living in urban areas.

9. Potential students do not have an accurate or adequate knowledge of the content and benefits of vocational agriculture.

10. Students lack exposure to a variety of jobs that require or utilize skills that are a part of the vocational agriculture curriculum.

11. Students have changed considerably in their interests and their attitude toward agriculture.

12. The traditional facilities of vocational agriculture have a limiting effect on enrollment.

13. The tools and equipment of many vocational agriculture programs are inadequate and therefore limit enrollment.

The above factors were touted, on a national basis, as limiting vocational agriculture enrollment; what effect were these factors having on the enrollment of vocational agriculture in Idaho? The most knowledgeable individuals about factors affecting enrollment in a particular vocational agriculture program are the instructor and the school administrator directly responsible for the program.

The determination of the perceptions of the vocational agriculture instructors and administrators toward the influence of the above factors on the vocational agriculture enrollment in their school formed the basis of this study.

PURPOSE AND OBJECTIVES

The purpose of the study was to determine the contribution of selected factors to the decline in enrollment in secondary vocational agricultural education programs in Idaho. The specific objectives of the study were to:

1. Determine the perceptions of Idaho secondary school administrators and vocational agriculture instructors toward the influence of selected factors on secondary vocational agriculture enrollment.

2. Identify the differences between the perceptions of administrators and vocational agriculture instructors toward the influence of selected factors on secondary vocational agriculture enrollment.

PROCEDURES

The population for this descriptive study consisted of 75 administrators and 81 vocational agriculture instructors from schools in Idaho that offered vocational agriculture during the 1986-87 academic year. Because of the small number of vocational agriculture programs in Idaho, the entire population was used for the study. Usable data were received from 73 administrators and 78 vocational agriculture instructors, resulting in an overall response rate of 96.5 percent.

A self-administered, fixed response mail questionnaire was used to elicit responses from administrators and instructors. A follow-up postcard was mailed to all administrators and instructors reminding them of the importance of their response to the study. A second and third follow-up letter and instrument were mailed to administrators and instructors who had not returned a previous instrument.

The reliability coefficient (Cronbach's alpha) of the response scales used with the variables reported in this study was estimated as alpha = 0.79.

Data were analyzed using the Statistical Package for Social Sciences (SPSSx, Version 2.1), with subprograms, Frequency, Friedman's Two-way ANOVA, and Wilcoxon's Matched-pairs Signed-rank test. Non-parametric statistical tests were used to analyze the data of this study because the data were collected using a 4-point scale and, therefore, the data were measured at the ordinal level and did not satisfy the requirements for parametric tests.

FINDINGS

The administrators and vocational agriculture instructors were asked to indicate the extent each of the selected factors limited the vocational agriculture enrollment in their school. The response categories provided were seriously limiting, moderately limiting, slightly limiting and not limiting.

Table 1 lists the factors, in an abbreviated form, and the percentage of respondents selecting each of the response categories. The mean rank, derived from Friedman's 2-way ANOVA, was used to order the factors from most limiting to least limiting.

Table 1. Selected factors and their limiting effect on secondary vocational agriculture enrollment as perceived by administrators and instructors.

Factors	Mean Rank	Seriously Limiting	Moderately Limiting	Slightly Limiting	Not Limiting
Scheduling conflicts	4.25*	26.8**	39.5	24.8	7.6
Change in students' interests & attitudes toward agriculture	4.50	23.6	36.9	29.3	8.9
Competition with other electives	4.50	23.6	37.6	28.7	8.3
Academically oriented students guided away from vo ag	5.71	22.3	26.1	26.8	23.6
Inadequate student knowledge/image of vo ag	6.78	12.1	22.3	36.9	28.0
Students lacking exposure to jobs requiring vo ag skills	7.26	8.3	21.0	42.0	28.0
Demand on students' time	8.01	3.8	16.6	42.7	34.4
Student participation in sports	8.18	6.4	17.8	28.7	42.7
Students required to have SOE	8.46	1.9	15.9	41.4	39.5
Vo ag used as "dumping ground"	9.11	3.2	10.8	33.1	50.3
Inadequate tools & equipment	9.29	1.3	9.6	35.0	52.9
Limited vo ag facilities	9.38	3.2	10.8	26.8	58.6
Students live in urban areas	9.42	1.9	12.7	26.8	58.0

* From Friedman's Two-way ANOVA, 1 = Seriously Limiting, 2 = Moderately Limiting, 3 = Slightly Limiting, 4 = Not Limiting

** Percent of Total Responses

Over 60 percent of the respondents indicated scheduling conflicts, change in students' interests and attitudes toward agriculture and competition with other elective courses moderately to seriously limited vocational agriculture enrollment at their school.

The respondents' indications of the limiting influence of the factor of academically oriented students being guided away from vocational agriculture were almost equally divided among the 4 response categories.

Over 65 percent of the respondents indicated the factors of inadequate/inaccurate student knowledge or image of vocational agriculture, students lacking exposure to a variety of jobs requiring or utilizing vocational agriculture skills, the demand of students' time by vocational agriculture and students participation in sports as slightly to not limiting on vocational agriculture enrollment in their schools.

Finally, over 80 percent of the respondents indicated the factors of vocational agriculture requiring students to have a SOEP, vocational agriculture used as a "dumping ground", inadequate tools and equipment, limited facilities and students live in urban areas as not limiting to slightly limiting vocational agriculture enrollment in their schools.

To determine if the responses of the administrator and instructor of a particular school were significantly different, the statistical test, Wilcoxon's Matched-pairs Signed-rank, was applied to the responses as summarized in Table 1.

Table 2 lists the results of the Wilcoxon test. The test determined the number of cases (schools) in which the instructor rated the factor as more limiting than did the administrator, the number of cases (schools) in which the administrator rated the factor as more limiting than did the instructor, the number if cases (schools) in which the ratings of the instructor and administrator were tied, the computed Z-score and the probability of that Z-score being due to chance or error.

Table 2. The difference in perception between administrators and instructors toward the influence of selected factors on vocational agriculture enrollment as tested by Wilcoxon's Matched-pairs Signed-rank Test.

Factors	Number of Cases Factor Rated More Limiting by Instructor	Administrator	Ties	Z-score	Probability
Vo ag used as "dumping ground"	47	4	21	-5.5585	.0000 *
Inadequate student knowledge/image of vo ag	50	6	19	-5.5550	.0000 *
Student participation in sports	40	10	20	-3.8372	.0001 *
Academically oriented students guided away from vo ag	43	14	17	-3.7581	.0002 *
Scheduling conflicts	37	10	27	-3.5662	.0004 *
Students live in urban areas	24	11	40	-2.5470	.0109 *
Students lacking exposure to jobs requiring vo ag skills	31	15	29	-1.8027	.0714
Change in students' interests & attitudes toward agriculture	24	20	30	-1.1553	.2479
Limited vo ag facilities	25	13	37	-1.1312	.2580
Students required to have SOE	30	21	23	-1.0451	.2960
Inadequate tools & equipment	25	21	29	-1.0434	.2968
Competition with other electives	23	22	28	-0.4007	.6886
Demand on students' time	27	20	25	-0.2540	.7995

* Significant difference in response pattern with $p \leq .05$

The administrators and instructors differed significantly in their responses to 6 of the 13 factors: scheduling conflicts, academically oriented students being guided away from vocational agriculture, inadequate/inaccurate student knowledge/image of vocational agriculture, student participation in sports, vocational agriculture used as a "dumping ground" and students live in urban areas. In each instance the

instructors rated the factor as more limiting to vocational agriculture enrollment than did their administrators. The ratio of the number of cases in which the instructor rated the factor more limiting than did the administrator to the number of cases in which the administrator rated the factor as more limiting than did the instructor ranged from 2:1 for the factor of students live in urban areas to 11:1 for the factor of vocational agriculture is used as a "dumping ground".

CONCLUSIONS

The 13 factors, identified from the literature as limiting vocational agriculture enrollments, were rated significantly differently as to their effect by the respondents of this study, Idaho secondary school administrators and vocational agriculture instructors.

The 4 factors rated as having the most limiting effect on vocational agriculture enrollment were: scheduling conflicts, change in students' interests and attitudes toward agriculture, competition with other elective courses and academically oriented students guided away from vocational agriculture.

The 5 factors rated as having the least limiting effect on vocational agriculture enrollment were: vocational agriculture requiring students to have a SOEP, vocational agriculture used as a "dumping ground", inadequacy of vocational agriculture tools and equipment, limited facilities for vocational agriculture students and students live in urban areas.

The administrators and instructors rated 4 factors as having an intermediate (as compared to the two groups of factors cited above) limiting effect on vocational agriculture enrollment. The factors were: inadequate/inaccurate student image/knowledge of vocational agriculture, students lacking exposure to variety of jobs that require/utilize vocational agriculture skills, the demand on students' time by vocational agriculture and student participation in sports.

While the above conclusions are accurate and revealing, the data was analyzed further to fully draw out the perceptions of the administrators and instructors. Administrators and instructors rated 6 of the 13 factors significantly different.

Of the group of factors rated as most limiting, administrators and instructors differed in their ratings of the factors of scheduling conflicts and academically oriented students guided away from vocational agriculture.

Of the group of factors rated as least limiting, administrators and instructors differed in their ratings of the factors of vocational agriculture used as a "dumping ground" and students live in urban areas.

Of the group of factors rated as intermediately limiting, administrators and instructors differed in their ratings of the factors of inadequate/inaccurate student knowledge/image of vocational agriculture and student participation in sports.

On the factors that administrators and instructors differed in their ratings, instructors rated each of the factors as more limiting than did the administrators by ratios of 11:1 to 2:1.

RECOMMENDATIONS

The following recommendations, based on the findings of this study, should be given consideration by teacher educators, administrators, and instructors having responsibility for secondary vocational agricultural education.

1. Administrators and instructors should investigate the reason(s) their perceptions of the limiting effect of 6 of the 13 factors; scheduling conflicts, academically oriented students guided away from vocational agriculture, inadequate/inaccurate student knowledge/image of vocational agriculture, student participation in sports, vocational agriculture used as a dumping ground, and students living in an urban area, are so different. It would seem reasonable to expect an administrator and an instructor from the same school to have like perceptions of the limiting effect of those particular factors.

2. Research should be conducted to quantify the actual limiting effect of the factors: scheduling conflicts, change in students' interests and attitudes toward agriculture, competition with other elective courses and academically oriented students guided away from vocational agriculture. While

administrators and instructors differed in their opinion of the limiting effect of these factors, both groups had rated the 4 as the most limiting.

3. Research should be conducted to determine the perception of students currently enrolled and not enrolled in vocational agriculture toward these same factors and their effect on vocational agriculture enrollment.

4. Research should also be conducted to determine the perception of community leaders and school patrons toward these factors and their effect on vocational agriculture enrollment.

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